

Iowa Power Fund Board – Due Diligence Committee (DDC)
Meeting Minutes
April 7, 2008

Office of Energy Independence, Room 142
Lucas State Office Building
321 E. 12th Street
Des Moines, Iowa

Call to Order:

Roya Stanley, Chair, called the meeting to order at 1:10 P.M.

Roll Call:

Member	Present	Absent
John Brighton	Conf. Call	
Franklin Codel	Conf. Call	
Ted Crosbie		X
Vern Gebhart	Conf. Call	
Patricia Higby		X
Fred Hubbell	X	
William [Curt] Hunter		X
Roya Stanley	X	

Also in attendance from OEI & Governor's Office: Deborah Svec-Carstens, Jennifer Wright, Michelle Bauer, Rob Grayson

Approval of Agenda:

Mr. Gebhart moved, Mr. Codel seconded, that the agenda for this meeting be approved as presented. Passed on voice vote.

Approval of Minutes:

Ms. Higby indicated that there were several minor corrections that staff should incorporate into the minutes. Mr. Codel moved to approve the meeting minutes for March 26, 2008 with Ms. Higby's changes, Mr. Gebhart seconded; passed on a voice vote.

Chair's Remarks:

None.

Pre-Application Review

1082: Climate Change Education – Iowa State University Extension Service will have conversation in communities about climate change. The goals are to gain perspective on the attitudes Iowans have about climate change and to present to the participants a large menu of possible individual and community based actions to mitigate climate change, and to get an idea from the participants which actions they are most willing to undertake. The information from these community conversations would be used to put together a public education campaign. Another round of public meetings would then be hosted by ISU Extension to ensure that the work of the education campaign is qualified, rewarded and disseminated to the wider public.

Brighton and Higby recused. No Quorum. No Action taken.

Review of Full Applications:

RENEW Energy Systems – Mobile Solid Biomass Briquette Plant

Steve Smith for RENEW in Mitchell Co. gave the presentation.

Q.: Buying equipment that exists and is proven- what are you going to determine? A: transportation into press is a costly proposition. Making the situation uncompetitive. Makes the product too costly to take to market. The mobile briquetting machine can go to the biomass site, make the briquettes, then transport briquettes. No other industrial facility.

Q. If going to site, does the mobile facility stay at the site permanently? A: Some of both. Big sites could be 5-7 years, more machines, fewer years. If less biomass, then shorter time on site.

Q.: How many sites that might have machine on site for 6 mos to a year? A: There is at least one permanent site, most communities have a waste tree site where they chip. Every biodiesel plant has a bitenacious earth they transport to landfill, the mobile briquetter could be taken to site and make briquettes rather than being put in the landfill.

Q.: Why are there no other briquette machines? A: These are mechanical presses and are more suited for industrial sites and have high pay back.

Q.: Is the timeline for production still current? A: Timeline is still valid.

Q: What are the barriers of entry to other wants to purchase this technology? A: Educational process; time it takes to get equipment. However, it is very replicable.

Q: Your timeline indicates you are purchasing these machines next Tuesday? How are you hinging this project on Power Funds? A: The Power Fund money will help speed up the process

Q: The equity is less than 5%, is it normal for the banker to make loans to businesses with such a small piece of equity? A: Banker—there was more equity at one time, became involved and is confident in the technology.

Q: How certain is the USDA Rural Development funding? A: Brenda- optimistic since USDA has also funded a boiler in Osage.

Q: One of mobile briquetters to a permanent site? Is this correct? A: No, not exactly, would lease a piece of the site property and produce.

Q: at a place like the saw mill, where it could stay indefinitely, why put a “mobile” unit there? A: Because of the site characteristics, in many of these cases biomass is in a vast open area and briquetter would need to be located right next to biomass...

Q: What's the market for this product? A: Vast. With coal price up, many companies looking to burn biomass to generate electricity.

Q: Are the utilities looking to burn biomass, are they doing emissions testing? A: We are doing testing and results are attached to proposal. Burns much cleaner than coal.

Q: Numbers, similar to ethanol plant decrease in CO2 gases over 5 years, however, briquetter is much less significant contribution than ethanol plant. How many briquette machines do you see being put to use? A: We're talking small scale because we are only talking about 2 small scale presses right now. There is a larger press and that puts out 25% more units.

Q: 5 years out, how many more mobile briquetters do you see being used, only 2 now? A: Models 5 years down the road have shown from 20–40, intent is to make available to locations that have use/need for briquetters, clean up the environment, fallen trees from storms, ethanol plants, etc.

Q: I struggled with lack of financial business plan. Looking at numbers (tons and price), quite a lot of revenue. Are the costs high to run these machines? What's the margin? A: Operational costs depend on how far we are hauling the product. Staffing is not that much. \$25-26 cost per ton, plus feedstock for total of about \$40 per ton, before transportation. 300 miles is the farthest you'd want to haul it.

Q: Are you paying for the input product? A: Depends. Biodiesel waste, can take it for no cost or little costs. For wood, pay a small amount.

Q: Sounds like this is going to happen regardless of money for this project. More than one industrial customer has expressed interest.

A: We want to prove the mobile capacity, the industrial customers showing interest may need permanent structure.

Q: If PF determines they want to put money in, are you prepared to allow royalties on equipment, on the mobile briquetter? A: Possibility for mobile equipment in Iowa.

DDC member summary: questions on financials, no firm contracts, no firm market studies, no firm USDA funding, a banker who's admitted he's taking risk, basically giving them a loan to setup demonstrator units in U.S. to help sell equipment around U.S. when they know it's already selling around the world.

Vote:

Yes, with questions for Full Board to work through, no funding recommendation, no specific dollar amount – Code, Gebhart, Brighton, Hubbell, might be a good project for Full board to review, with questions. Full board can review with questions, see if they would like to review these issues rather than coming back to DDC? Questions include: Wait until we know about USDA money? Why another \$1 or \$500 is needed to put them over the hump? Better idea of potential size of market? Market of feedstock? Market for who wants to buy the briquettes?

Green Plains Renewable Energy, Inc. – Green Plains Renewable Energy Inc. Algae Project

Greg Connell presented.

Q: Been reading about algae issues, NYT etc, a lot of money going into this, seems viable, why is PF money needed for this project? A: In Iowa, technology is proven, but we want it to adapt to Iowa environment, we want to use the huge ethanol footprint, use the CO₂, capture it.

Q: The commercialization of the 100 hectare facility in phase 3, what is going to be on those acres? A: 250 acres of greenhouse, no open ponds, collection of algae and dewatering.

Q: Arizona project? A: One of the problems in AZ is that it's tougher to cool something than it is to heat it, so in AZ heat, it was harder for them to cool project in summer than it will be for us to heat it in the winter.

Q: 250 acres under glass is all that is needed to collect all the CO₂ from an ethanol plant? A: Yes.

Q: Is that space accessible to the other ethanol plants? A: Plan to offer \$1000 an acre cash rent, normally going for \$250 an acre cash rent.

Q: Financials- 1) Is Green Plains working with other ethanol plants in Iowa and 2) Is Green Plains kicking in anything? A: Green Fuels will benefit but the big beneficiary will be the ethanol industry. In addition to CO₂ mitigation, we are talking about carbon credits or cap and trade credits in the next few years. Hoping for a bigger investment from Green Plains in Phase 2.

Q: Are you planning to come back to PF for money in Phase 2 and Phase 3?

A: Not in Phase 3. Hoping to get DOE money for Phase 2.

Q: What is the cost of production per acre per year?

A: \$10,000 per acre for operational costs versus \$12,500 if you take it all the way through the process to biodiesel.

Q: Would this process be available after Phase I, would there be a performance report?

A: Anxious to make this statewide, would likely be a performance report after Phase 1.

Q: Why isn't Green Fuels the applicant at the end of the day, they stand to gain a lot?

A: Once they start to see what we believe to be very positive results, hopefully they will have more significant involvement in Phase 2. We're pleased to have them working with us because they are typically ethanol people.

Q: Green Fuels would own all the patents?

A: We would develop the adaptability. We are providing the R & D for all ethanol plants.

Q: So in Phase 2, if people are excited about it, would they go to Green Fuel?

A: Will probably be a licensing agreement with Green Plains, but could be licensed to any ethanol plant.

Q: No CEO of Green Plains?

A: No CEO of *Green Fuels*

Q: What kind of environmental evidence do you have that your numbers are reasonably accurate?

A: Believe 3-D matrix has significantly enhanced results.

Q: Does the ethanol plant need to be powered by natural gas to get the CO₂ results, not coal fired plants?

A: Yes natural gas would produce the better results.

Q: Recycles some of the water from the ethanol plants?

A: Yes...

Q: How long does Phase 1 last?

A: 195 days, we'd have results next spring. And would take us through a few seasons, would be a good test.

Vote:

DDC member: Very meaningful project but wishes Green Fuels had some "skin" in the game. Maybe the amount in question could be defined in such a way that would ask for Green Fuels could match the Green Plains investment.

DDC member: Maybe Green Fuels would be willing to split the licensing revenues with the State of Iowa

A: Much more willing to look at that.

DDC member: believes Phase 1 and 2 are the technical review.

Yes, for full amount indicated, Board can recommend tech review if they believe necessary, if when putting together the financial package we arrange some sort of license sharing with Green Fuels and/or Green Plains. Gebhart, Hubbell, Brighton, Codel

Adjournment:

There being no further business to discuss at this time, the meeting adjourned at about 3:40 P.M. It was indicated the next meeting would be Wednesday, April 23rd at IUB.

Roya Stanley, Committee Chair

Michelle Bauer, Recording Secretary

Date